

# SEQUENCE LISTING

<110> Strachan, Lorna  
Sleeman, Matthew  
Abernethy, Nevin  
Onrust, Rene  
Kumble, Anand  
Murison, Greg

<120> Compositions isolated from stromal cells  
and methods for their use.

<130> 11000.1037C3

<160> 61

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 803

<212> DNA

<213> Mouse

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Asn	Pro	Tyr	Asp	Cys	Cys	Gly	Val	Glu	Gly	Trp	Gly	Ala	Leu	Gln	Gln
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His	Phe	Lys	Thr	Val	Ala	Asp	Leu	Ser	Met	Val	Thr	Cys	Asn	Leu	Ser
	115						120					125			
Ser	Lys	Ile	Val	Arg	Val	Val	Glu	Leu	Pro	Glu	Gly	Leu	Pro	Gln	Gly
	130					135					140				
Cys	Lys	Trp	Glu	Gln	Val	Asp	Thr	Gly	Leu	Phe	Tyr	Leu	Val	Leu	Ile
145					150					155					160
Leu	Pro	Ser	Cys	Leu	Thr	Leu	Leu	Val	Ala	Cys	Thr	Val	Val	Phe	Leu
			165						170					175	
Thr	Phe	Lys	Lys	Pro	Leu	Leu	Gln	Val	Ile	Lys	Ser	Arg	Cys	His	Trp
			180					185					190		
Ser	Ser	Ile	Tyr												
		195													

<210> 12  
 <211> 174  
 <212> PRT  
 <213> Mouse

<400> 12															
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Gly	Ala	Val	Leu	Leu	Leu	Leu	Leu	Ser	Gly	Ala	Ser	Ala	Gln	Glu	Pro
			20					25					30		
Pro	Arg	Val	Gly	Cys	Ser	Glu	Tyr	Thr	Asn	Arg	Ser	Cys	Glu	Glu	Cys
		35					40					45			
Leu	Arg	Asn	Val	Ser	Cys	Leu	Trp	Cys	Asn	Glu	Asn	Lys	Ala	Cys	Met
	50					55					60				
Asp	Tyr	Pro	Val	Arg	Lys	Ile	Leu	Pro	Pro	Ala	Ser	Leu	Cys	Lys	Leu
65					70					75					80
Ser	Ser	Ala	Arg	Trp	Gly	Val	Cys	Trp	Val	Asn	Phe	Glu	Ala	Leu	Ile
				85					90					95	
Ile	Thr	Met	Ser	Val	Leu	Gly	Gly	Ser	Val	Leu	Leu	Gly	Ile	Thr	Val
			100					105					110		
Cys	Cys	Cys	Tyr	Cys	Cys	Arg	Arg	Lys	Lys	Ser	Arg	Lys	Pro	Asp	Lys
	115						120					125			
Ser	Asp	Glu	Arg	Ala	Met	Arg	Glu	Gln	Glu	Glu	Arg	Arg	Val	Arg	Gln
	130					135					140				
Glu	Glu	Arg	Arg	Ala	Glu	Met	Lys	Ser	Arg	His	Asp	Glu	Ile	Arg	Lys
145					150					155					160
Lys	Tyr	Gly	Leu	Phe	Lys	Glu	Gln	Asn	Pro	Tyr	Glu	Lys	Phe		
				165					170						

<210> 13  
 <211> 106  
 <212> PRT  
 <213> Mouse

<400> 13  
 Ala Pro Gly Lys Pro Cys Arg Gly Leu Ser His Arg Thr Cys Ile Leu  
 1 5 10 15  
 Arg Cys Arg Pro Met Pro Leu Phe Thr His Pro Ser Pro Cys His Leu  
 20 25 30  
 Cys Gly Pro Cys Ser Thr Thr Ser Pro Ser Thr Trp Val Leu Cys Pro  
 35 40 45  
 Leu Pro Met Ser Pro Leu Cys Pro Thr Cys Val Ser Thr Met Thr Leu  
 50 55 60  
 Ala Thr Cys Thr Cys Pro Trp Ser Thr Thr Cys Pro Cys Thr Leu Ala  
 65 70 75 80  
 Pro Asn His Gly Ile Ala Ser Asp Thr Gln Ser Pro Val Ser Arg Ala  
 85 90 95  
 Glu Ser Val Gly Gly Pro Ser Leu Ile Phe  
 100 105

<210> 14  
 <211> 268  
 <212> PRT  
 <213> Mouse

<400> 14  
 Met Ala Leu Gly Phe Ser Gln Arg Ser Arg Met Val Ala Ala Gly Ala  
 1 5 10 15  
 Gly Val Thr Arg Leu Leu Val Leu Leu Leu Met Val Ala Ala Ala Pro  
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 Ser Arg Ala Arg Gly Ser Gly Cys Arg Val Gly Ala Ser Ala Arg Gly  
 35 40 45  
 Thr Gly Ala Asp Gly Arg Glu Ala Glu Gly Cys Gly Thr Val Ala Leu  
 50 55 60  
 Leu Leu Glu His Ser Phe Glu Leu Gly Asp Gly Ala Asn Phe Gln Lys  
 65 70 75 80  
 Arg Gly Leu Leu Leu Trp Asn Gln Gln Asp Gly Thr Leu Ser Ala Thr  
 85 90 95  
 Gln Arg Gln Leu Ser Glu Glu Glu Arg Gly Arg Leu Arg Asp Val Ala  
 100 105 110  
 Ala Val Asn Gly Leu Tyr Arg Val Arg Val Pro Arg Arg Pro Gly Thr  
 115 120 125  
 Leu Asp Gly Ser Glu Ala Gly Gly His Val Ser Ser Phe Val Pro Ala  
 130 135 140  
 Cys Ser Leu Val Glu Ser His Leu Ser Asp Gln Leu Thr Leu His Val  
 145 150 155 160  
 Asp Val Ala Gly Asn Val Val Gly Leu Ser Val Val Val Tyr Pro Gly  
 165 170 175  
 Gly Cys Arg Gly Ser Glu Val Glu Asp Glu Asp Leu Glu Leu Phe Asn  
 180 185 190  
 Thr Ser Val Gln Leu Arg Pro Pro Ser Thr Ala Pro Gly Pro Glu Thr  
 195 200 205  
 Ala Ala Phe Ile Glu Arg Leu Glu Met Glu Gln Ala Gln Lys Ala Lys  
 210 215 220  
 Asn Pro Gln Glu Gln Lys Ser Phe Phe Ala Lys Tyr Trp Met Tyr Ile  
 225 230 235 240  
 Ile Pro Val Val Leu Phe Leu Met Met Ser Gly Ala Pro Asp Ala Gly  
 245 250 255  
 Gly Gln Gly Gly Gly Gly Gly Gly Ser Ser Arg  
 260 265

<210> 15  
 <211> 66  
 <212> PRT  
 <213> Mouse

<400> 15  
 Met Asp Phe Leu Val Leu Phe Leu Phe Tyr Leu Ala Phe Leu Leu Ile  
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 Cys Val Val Leu Ile Cys Ile Phe Thr Lys Ser Gln Arg Leu Lys Ala  
 20 25 30  
 Val Val Leu Gly Gly Ala Gln Val Ala Leu Val Leu Gly Tyr Cys Pro  
 35 40 45  
 Asp Val Asn Thr Val Leu Gly Ala Ser Leu Glu Gly Ser Gln Asp Lys  
 50 55 60  
 Gly Met  
 65

<210> 16  
 <211> 338  
 <212> PRT  
 <213> Mouse

<400> 16  
 Met Gly Ala Val Trp Ser Ala Leu Leu Val Gly Gly Gly Leu Ala Gly  
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 20 25 30  
 Asp Gly Val Ala Glu Pro Pro Gln Lys Gly Ala Pro Pro Gly Glu Ala  
 35 40 45  
 Ala Ala Pro Gly Asp Gly Pro Gly Gly Gly Gly Ser Gly Gly Leu Ser  
 50 55 60  
 Pro Glu Pro Ser Asp Arg Glu Leu Val Ser Lys Ala Glu His Leu Arg  
 65 70 75 80  
 Glu Ser Asn Gly His Leu Ile Ser Glu Ser Lys Asp Leu Gly Asn Leu  
 85 90 95  
 Pro Glu Ala Gln Arg Leu Gln Asn Val Gly Ala Asp Trp Val Asn Ala  
 100 105 110  
 Arg Glu Phe Val Pro Val Gly Lys Ile Pro Asp Thr His Ser Arg Ala  
 115 120 125  
 Asp Ser Glu Ala Ala Arg Asn Gln Ser Pro Gly Ser His Gly Gly Glu  
 130 135 140  
 Trp Arg Leu Pro Lys Gly Gln Glu Thr Ala Val Lys Val Ala Gly Ser  
 145 150 155 160  
 Val Ala Ala Lys Leu Ala Ser Ser Ser Leu Leu Val Asp Arg Ala Lys  
 165 170 175  
 Ala Val Ser Gln Asp Gln Ala Gly His Glu Asp Trp Glu Val Val Ser  
 180 185 190  
 Arg His Ser Ser Trp Gly Ser Val Gly Leu Gly Gly Ser Leu Glu Ala  
 195 200 205  
 Ser Arg Leu Ser Leu Asn Gln Arg Met Asp Asp Ser Thr Asn Ser Leu  
 210 215 220  
 Val Gly Gly Arg Gly Trp Glu Val Asp Gly Lys Val Ala Ser Leu Lys  
 225 230 235 240  
 Pro Gln Gln Val Ser Ile Gln Phe Gln Val His Tyr Thr Thr Asn Thr  
 245 250 255  
 Asp Val Gln Phe Ile Ala Val Thr Gly Asp His Glu Ser Leu Gly Arg  
 260 265 270



Trp Asn Thr Tyr Ile Pro Leu His Tyr Cys Lys Asp Gly Leu Trp Ser  
 275 280 285  
 His Ser Val Phe Leu Pro Ala Asp Thr Val Val Glu Trp Lys Phe Val  
 290 295 300  
 Leu Val Glu Asn Lys Glu Val Thr Arg Trp Glu Glu Cys Ser Asn Arg  
 305 310 315 320  
 Phe Leu Gln Thr Gly His Glu Asp Lys Val Val His Gly Trp Trp Gly  
 325 330 335  
 Ile His

<210> 17  
 <211> 119  
 <212> PRT  
 <213> Mouse

<400> 17  
 Gly Thr Ser Pro Ala Ser Val Leu Arg Ser Val Ser Ser Asp Pro Ser  
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 Leu Pro Pro Pro Ser Met Ala Ser Leu Leu Cys Cys Gly Pro Lys Leu  
 20 25 30  
 Ala Ala Cys Gly Ile Val Leu Ser Ala Trp Gly Val Ile Met Leu Ile  
 35 40 45  
 Met Leu Gly Ile Phe Phe Asn Val His Ser Ala Val Leu Ile Glu Asp  
 50 55 60  
 Val Pro Phe Thr Glu Lys Asp Phe Glu Asn Gly Pro Gln Asn Ile Tyr  
 65 70 75 80  
 Asn Leu Tyr Glu Gln Val Ser Tyr Asn Cys Phe Ile Ala Ala Gly Leu  
 85 90 95  
 Tyr Leu Leu Leu Gly Gly Phe Ser Phe Cys Gln Val Arg Leu Asn Lys  
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 Arg Lys Glu Tyr Met Val Arg  
 115

<210> 18  
 <211> 280  
 <212> PRT  
 <213> Mouse

<400> 18  
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 Pro Gly Val Ala Tyr Ser Val Ser Leu Pro Ala Ser Phe Leu Glu Asp  
 20 25 30  
 Val Ala Gly Ser Gly Glu Ala Glu Gly Ser Ser Ala Ser Ser Pro Ser  
 35 40 45  
 Leu Pro Pro Pro Gly Thr Pro Ala Phe Ser Pro Thr Pro Glu Arg Pro  
 50 55 60  
 Gln Pro Thr Ala Leu Asp Gly Pro Val Pro Pro Thr Asn Leu Leu Glu  
 65 70 75 80  
 Gly Ile Met Asp Phe Phe Arg Gln Tyr Val Met Leu Ile Ala Val Val  
 85 90 95  
 Gly Ser Leu Thr Phe Leu Ile Met Phe Ile Val Cys Ala Ala Leu Ile  
 100 105 110  
 Thr Arg Gln Lys His Lys Ala Thr Ala Tyr Tyr Pro Ser Ser Phe Pro  
 115 120 125  
 Glu Lys Lys Tyr Val Asp Gln Arg Asp Arg Ala Gly Gly Pro Arg Thr

130		135		140	
Phe Ser Glu Val Pro Asp Arg Ala Pro Asp Ser Arg His Glu Glu Gly					
145		150		155	160
Leu Asp Thr Ser His Gln Leu Gln Ala Asp Ile Leu Ala Ala Thr Gln					
	165		170		175
Asn Leu Arg Ser Pro Ala Arg Ala Leu Pro Gly Asn Gly Glu Gly Ala					
	180		185		190
Lys Pro Val Lys Gly Gly Ser Glu Glu Glu Glu Glu Glu Val Leu Ser					
	195		200		205
Gly Gln Glu Glu Ala Gln Glu Ala Pro Val Cys Gly Val Thr Glu Glu					
	210		215		220
Lys Leu Gly Val Pro Glu Glu Ser Val Ser Ala Glu Ala Glu Gly Val					
225		230		235	240
Pro Ala Thr Ser Glu Gly Gln Gly Glu Ala Glu Gly Ser Phe Ser Leu					
	245		250		255
Ala Gln Glu Ser Gln Gly Ala Thr Gly Pro Pro Glu Ser Pro Cys Ala					
	260		265		270
Cys Asn Arg Val Ser Pro Ser Val					
	275		280		

<210> 19  
 <211> 188  
 <212> PRT  
 <213> Mouse

<400> 19	
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	20
Ala Ser Gly Asn His Ser Val Leu Thr Ser Asn Ile Asn Ile Thr Glu	25
	30
35	40
Asn Thr Asn Gln Thr Met Ser Val Val Ser Asn Gln Thr Ser Glu Met	45
50	55
Gln Ser Thr Ala Lys Pro Ser Val Leu Pro Lys Thr Thr Thr Leu Ile	60
65	70
Thr Val Lys Pro Ala Thr Ile Val Lys Ile Ser Thr Pro Gly Val Leu	75
	80
	85
Pro His Val Thr Pro Thr Ala Ser Lys Ser Thr Pro Asn Ala Ser Ala	90
	95
100	105
Ser Pro Asn Ser Thr His Thr Ser Ala Ser Met Thr Thr Pro Ala His	110
	115
120	125
Ser Ser Leu Leu Thr Thr Val Thr Val Ser Ala Thr Thr His Pro Thr	130
	135
140	145
Lys Gly Lys Gly Ser Lys Phe Asp Ala Gly Ser Phe Val Gly Gly Ile	150
	155
160	165
Gly Val Asn Thr Gly Ser Phe Ile Tyr Ser Leu His Trp Met Gln Asn	170
	175
Val Leu Phe Lys Lys Arg His Ser Val Pro Lys His	180
	185

<210> 20  
 <211> 317  
 <212> PRT  
 <213> Mouse

<400> 20

Met	Arg	Ser	Gly	Ala	Leu	Trp	Pro	Leu	Leu	Trp	Gly	Ala	Leu	Val	Trp
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Thr	Val	Gly	Ser	Val	Gly	Ala	Val	Met	Gly	Ser	Glu	Asp	Ser	Val	Pro
			20					25					30		
Gly	Gly	Val	Cys	Trp	Leu	Gln	Gln	Gly	Arg	Glu	Ala	Thr	Cys	Ser	Leu
		35				40					45				
Val	Leu	Lys	Thr	Arg	Val	Ser	Arg	Glu	Glu	Cys	Cys	Ala	Ser	Gly	Asn
	50					55					60				
Ile	Asn	Thr	Ala	Trp	Ser	Asn	Phe	Thr	His	Pro	Gly	Asn	Lys	Ile	Ser
65					70				75					80	
Leu	Leu	Gly	Phe	Leu	Gly	Leu	Val	His	Cys	Leu	Pro	Cys	Lys	Asp	Ser
			85					90					95		
Cys	Asp	Gly	Val	Glu	Cys	Gly	Pro	Gly	Lys	Ala	Cys	Arg	Asn	Ala	Gly
			100					105					110		
Gly	Ala	Ser	Asn	Asn	Cys	Glu	Cys	Val	Pro	Asn	Cys	Glu	Gly	Phe	Pro
		115					120					125			
Ala	Gly	Phe	Gln	Val	Cys	Gly	Ser	Asp	Gly	Ala	Thr	Tyr	Arg	Asp	Glu
	130					135					140				
Cys	Glu	Leu	Arg	Thr	Ala	Arg	Cys	Arg	Gly	His	Pro	Asp	Leu	Arg	Val
145					150					155				160	
Met	Tyr	Arg	Gly	Arg	Cys	Gln	Lys	Ser	Cys	Ala	Gln	Val	Val	Cys	Pro
				165					170					175	
Arg	Pro	Gln	Ser	Cys	Leu	Val	Asp	Gln	Thr	Gly	Ser	Ala	His	Cys	Val
			180					185					190		
Val	Cys	Arg	Ala	Ala	Pro	Cys	Pro	Val	Pro	Ser	Asn	Pro	Gly	Gln	Glu
		195					200					205			
Leu	Cys	Gly	Asn	Asn	Asn	Val	Thr	Tyr	Ile	Ser	Ser	Cys	His	Leu	Arg
	210					215					220				
Gln	Ala	Thr	Cys	Phe	Leu	Gly	Arg	Ser	Ile	Gly	Val	Arg	His	Pro	Gly
225					230					235					240
Ile	Cys	Thr	Gly	Gly	Pro	Lys	Phe	Leu	Lys	Ser	Gly	Asp	Ala	Ala	Ile
			245						250				255		
Val	Asp	Met	Val	Pro	Gly	Lys	Pro	Met	Cys	Val	Glu	Ser	Phe	Ser	Asp
		260						265					270		
Tyr	Pro	Pro	Leu	Gly	Arg	Phe	Ala	Val	Arg	Asp	Met	Arg	Gln	Thr	Val
		275					280					285			
Ala	Val	Gly	Val	Ile	Lys	Ala	Val	Asp	Lys	Lys	Ala	Ala	Gly	Ala	Gly
	290					295					300				
Lys	Val	Thr	Lys	Ser	Ala	Gln	Lys	Ala	Gln	Lys	Ala	Lys			
305					310					315					

<210> 21

<211> 384

<212> DNA

<213> Mouse

<220>

<221> unsure

<222> (369) ... (369)

<400> 21

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tgtgggtggc	cagaagtttg	tgggtgtgcc	cacgggtgat	gtgtgggtcac	ggcctgatgg	180
ctcctacctc	aacaagctgc	tcctctctcg	ggcccgccag	gatgatgctg	gcatgtacat	240
ctgcctaggt	gcaaatacca	tgggctacag	tttccgtagc	gccttctctca	ctgtattacc	300
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gcctgtggng atcggcaccc cagc

384

<210> 22  
<211> 1967  
<212> DNA  
<213> Mouse

<400> 22

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ctgaggcggc	gcgaggaccc	ccaagaatgg	cagacaaaagt	ggtcccacgg	caggtggccc	300
gcctggggccg	cactgtgcgg	ctacagtgcc	cagtggaggg	ggaccaccca	ccgttgacca	360
tgtggaccaa	agatggccgc	acaatccaca	gtggctggag	ccgcttccgt	gtgctgcccc	420
agggctctgaa	ggtgaaggag	gtggaggccg	aggatgccgg	tgtttatgtg	tgcaaggcca	480
ccaatggcctt	tggcagcctc	agcgtcaact	acactctcat	catcatggat	gatattagtc	540
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tcattgtggat	gaaggatgac	cagaccttga	cgcactctaga	ggctagtga	cacagaaaga	780
agaagtggac	actgagcttg	aagaacctga	agcctgaaga	cagtggcaag	tacacgtgcc	840
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caaacttggc	catatagatg	tatgtactac	cagatgaaca	gccagccaga	ttcacacacg	1860
cacatgttta	aacgtgtaaa	cgtgtgcaca	actgcacaca	caacctgaga	aaccttcagg	1920
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<210> 23  
<211> 1742  
<212> DNA  
<213> Mouse

<400> 23

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cgcccccgcg	ctgatccctg	tcgagcgtct	acgcgcctcg	cttcctttgc	ctggagctcg	300
gcgcggaggg	gggcgggacc	ctggctctgc	ggccgcgacc	tgggtcttgc	gggcctgagc	360
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<210> 24  
 <211> 1004  
 <212> DNA  
 <213> Human

<400> 24						
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aactacaccc	tcgtcgtgct	ggatgacatt	agcccaggga	aggagagcct	ggggcccgcac	420
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cagccctcca	agatgaggcg	ccgggtgata	gcacggcccg	tgggtagctc	cgtgcccgtc	540
aagtgcgtgg	ccagcgggca	ccctcggccc	gacatcacgt	ggatgaagga	cgaccaggcc	600
ttgacgcgcc	cagaggccgc	tgagcccagg	aagaagaagt	ggacactgag	cctgaagaac	660
ctgcggccgg	aggacagcgg	caaatacacc	tgccgcgtgt	cgaaccgcgc	gggcgccatc	720
aacgccacct	acaaggtgga	tgtgatccag	cggaccgcgt	ccaagcccgt	gctcacaggc	780
acgcaccccg	tgaacacgac	ggtggacttc	ggggggacca	cgtccttcca	gtgcaagggtg	840
cgcagcgacg	tgaagccggt	gatccagtg	ctgaagcgcg	tggagtacgg	cgccgagggc	900
cgccacaact	ccaccatcga	tgtgggcggc	cagaagtttg	tggtgctgcc	cacgggtgac	960
gtgtggtcgc	ggcccgcagg	ctcctacctc	aataagccgc	tccc		1004

<210> 25  
 <211> 478  
 <212> DNA  
 <213> Mouse

<400> 25						
agaaaaaggc	ctcgctaaag	caacaaacct	gatcattttc	aagaaccata	ggactgaggt	60
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gggacagagc	ccgaactcag	cgagacccag	cgcaggagcc	tacaggtggc	tctggaggag	180
ttccacaaac	accacactgt	gcagttggcc	ttccaagaga	tcggtgtgga	cagagctgaa	240
gaagtgtctc	tctcagctgg	cacctttgtg	aggttggaa	ttaagctcca	gcagaccaac	300

tgccccaaga	aggactggaa	aaagccggag	tgcacaatca	aaccaaacgg	ggcggaaatg	360
cctggcctgc	attaaaatgg	acccaaggg	taaaattcta	ggccggatag	tccactgccc	420
aattctgaag	caagggcctc	aggatcctca	ggagttgcaa	tgcattaaga	tagcacag	478

<210> 26  
 <211> 545  
 <212> DNA  
 <213> Mouse

<400> 26						
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acaaacctga	tcatttttcaa	gaaccatagg	actgaggtga	agccatgaag	ttcttgctga	120
tctccctagc	cctatggctg	ggcacagtgg	gcacacgtgg	gacagagccc	gaactcagcg	180
agaccagcg	caggagccta	caggtggctc	tggaggagtt	ccacaaacac	ccacctgtgc	240
agttggcctt	ccaagagatc	ggtgtggaca	gagctgaaga	agtgtctctt	tcagctggca	300
cctttgtgag	gttggaattt	aagctccagc	agaccaactg	ccccaagaag	gactggaaaa	360
agccggagtg	cacaatcaaa	ccaaacggga	gaaggcggaa	atgcctggcc	tgcattaaaa	420
tggaccccaa	gggtaaaatt	ctaggccgga	tagtccactg	cccaattctg	aagcaagggc	480
ctcaggatcc	tcaggagttg	caatgcatta	agatagcaca	ggctggcgaa	gacccccacg	540
gctac						545

<210> 27  
 <211> 2213  
 <212> DNA  
 <213> Mouse

<400> 27						
gttgcaggcg	ctcggagtca	gcatggaaaag	tctctgctgg	gtcctgggat	ttctgctgct	60
ggctgcagga	ctgcctctcc	aggctgccaa	gcgatttcgt	gatgtgctgg	gccatgaaca	120
gtatcccaat	cacatgagag	agcacaacca	attacgtggc	tggctctcgg	atgaaaatga	180
atgggatgaa	cacctgtatc	cagtgtggag	gaggggagac	ggcaggtgga	aggactcctg	240
ggaaggaggc	cgtgtgcagg	cagtcctgac	cagtgactca	ccggctctgg	tgggttccaa	300
tatcaccttt	gtggtgaacc	tgggtgtccc	cagatgccag	aaggaagatg	ctaattggcaa	360
tatcgtctat	gagaagaact	gcaggaatga	tttgggactg	acctctgacc	tgcattgtcta	420
caactggact	gcaggggcag	atgatggtga	ctgggaagat	ggcaccagcc	gaagccagca	480
tctcaggttc	ccggacagga	ggcccttccc	tcgcccccat	ggatggaaga	aatggagctt	540
tgtctacgtc	tttcacacac	ttggccagta	tttccaaaaa	ctgggtcggg	gttcagcacg	600
ggttttctata	aacacagtca	acttgacagc	tggccctcag	gtcatggaag	tgactgtctt	660
tcgaagatac	ggccgggcat	acattcccac	ctcgaagggt	aaagatgtgt	atgtgataac	720
agatcagatc	cctgtattcg	tgaccatgtc	ccagaagaat	gacaggaact	tgtctgatga	780
gatcttctct	agagacctcc	ccatcgtctt	cgatgtcctc	attcatgatc	ccagccactt	840
cctcaacgac	tctgccattt	cctacaagtg	gaactttggg	gacaacactg	gcctgtttgt	900
ctccaacaat	cacactttga	atcacactta	tgtgtctcaat	ggaaccttca	accttaacct	960
caccgtgcaa	actgcagtgc	ccgggccatg	ccctccccct	tcgccttcga	ctccgcctcc	1020
accttcaact	ccgcctctac	ctccgcctct	acctctgccc	acattatcaa	cacctagccc	1080
ctcttttaatg	cctactgggt	acaaatccat	ggagctgagt	gacatttcca	atgaaaactg	1140
ccgaataaac	agatatggct	acttcagagc	caccatcaca	attgtagagg	ggatcctgga	1200
agtcagcatc	atgcagatag	cagatgtccc	catgccacac	ccgcagcctg	ccaactccct	1260
gatggacttc	actgtgacct	gcaaaggggc	cacccccatg	gaagcctgta	cgatcatctc	1320
cgacccacc	tgccagatcg	cccagaaccg	ggtctgcagc	cctgtggctg	tggatgggct	1380
gtgctgtctg	tctgtgagaa	gagccttcaa	tgggtctggc	acctactgtg	tgaatttcac	1440
tctgggagat	gatgcaagcc	tggccctcac	cagcacctgt	atctctatcc	ctggcaaaga	1500
cccagactcc	cctctgagag	cagtgaatgg	tgtcctgatc	tccattggct	gcctggctgt	1560
gcttgtcacc	atggtttacca	tcttgtctga	caaaaaacac	aaggcgtaca	agccaatagg	1620
aaactgcccc	aggaacacgg	tcaagggcaa	aggcctgagt	gttctcctca	gccacgcgaa	1680
agccccgttc	ttccgaggag	accaggagaa	ggatccattg	ctccaggaca	agccaaggac	1740
actctaagtc	tttggccttc	cctctgacca	ggaaccctct	cttctgtgca	tgtatgtgag	1800

ctgtgcagaa	gatatgtggct	gggaactggt	gttctctaag	gattattgta	aaatgtatat	1860
cgtggccttag	ggagtgtggg	taaataagcat	tttagagaag	acatgggaag	acttagtggt	1920
tcttcccatc	tgtattgtgg	tttttact	gttcgtggg	tggacacgct	gtgtctgaag	1980
gggaggtggg	gtcactgcta	cttaaggtcc	taggttaact	gggggagata	ccacagatgc	2040
ctcagctttc	cacataacat	gggcatgaac	ccagctaata	accacctgaa	ggccatgctt	2100
catctgcctt	ccaactcact	gagcatgcct	gagctcctga	caaaattata	atgggcccgg	2160
gctttgtgta	tgggtgcgtgt	gtgtacatat	tctactcatt	aaaaaggtag	tct	2213

<210> 28  
 <211> 412  
 <212> DNA  
 <213> Mouse

<400> 28						
gcggagtccc	gcctcgccgc	ccctcgagcg	ccccagctt	ctctgctggc	cggaacctgc	60
accccgaaac	aggaagcacc	tggcggcggg	cgcgggatgg	ctgggcccag	ctgggggtctc	120
cctcggtctg	acggtttcat	ccttaccgag	cgcttgggca	gtggcacgta	cgccacgggtg	180
tacaaggcct	acgccaagaa	ggatactcgg	gaagtggtag	ccataaaatg	cgtggccaag	240
aagagtctca	acaaggcgct	agtggaaaac	ctctgactg	agattgagat	cctcaagggc	300
attcggcacc	cccatatcgt	gcagctgaaa	gacttccagt	gggacaatga	caatatctac	360
ctcatcatgg	agttctgtgc	agggggtgac	ctgtctcgct	tcattcatac	cc	412

<210> 29  
 <211> 437  
 <212> DNA  
 <213> Mouse

<400> 29						
cacagtcttg	tttctggtgg	ctttgatcac	tgtggggatg	aacactacct	atgtagtgtc	60
ttgccccaaa	gaatttgaaa	aacctggagc	ttgtcccaag	ccttcaccag	aaagtgttgg	120
aatttgtgtt	gatcaatgct	caggagatgg	atcctgcccc	ggcaacatga	agtgtctgtg	180
caatagctgt	ggtcatgtct	gcaaaactcc	tgtcttttaa	atggttgaca	gccatgtgga	240
agatggattc	aattctcata	aacatgaatg	atggccagcc	ccagaagatt	tcttctgaat	300
tcacagagcc	tgtgcttggc	tacttcctag	ccctagaatt	gcattcttgg	acaaggaaga	360
tctatattgt	ggtgacaatg	ccctaatatg	tctgtgtcca	aaataaacta	cccttagcat	420
tcaaaaaaaaa	aaaaaaaa					437

<210> 30  
 <211> 126  
 <212> PRT  
 <213> Mouse

<220>  
 <221> UNSURE  
 <222> (123)...(123)

<400> 30																	
Val	Asp	Phe	Gly	Thr	Thr	Ser	Phe	Gln	Cys	Lys	Val	Arg	Ser	Asp			
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Val	Lys	Pro	Val	Ile	Gln	Trp	Leu	Lys	Arg	Val	Glu	Tyr	Gly	Ser	Glu		
			20				25				30						
Gly	Arg	His	Asn	Ser	Thr	Ile	Asp	Val	Gly	Gly	Gln	Lys	Phe	Val	Val		
			35			40				45							
Leu	Pro	Thr	Gly	Asp	Val	Trp	Ser	Arg	Pro	Asp	Gly	Ser	Tyr	Leu	Asn		
	50				55				60								
Lys	Leu	Leu	Ile	Ser	Arg	Ala	Arg	Gln	Asp	Asp	Ala	Gly	Met	Tyr	Ile		
65					70				75						80		

Cys	Leu	Gly	Ala	Asn	Thr	Met	Gly	Tyr	Ser	Phe	Arg	Ser	Ala	Phe	Leu
				85					90					95	
Thr	Val	Leu	Pro	Asp	Pro	Lys	Pro	Pro	Gly	Pro	Pro	Met	Ala	Ser	Ser
			100					105					110		
Ser	Ser	Ser	Thr	Ser	Leu	Pro	Trp	Pro	Val	Xaa	Gly	Ile	Pro		
		115					120					125			

<210> 31  
 <211> 529  
 <212> PRT  
 <213> Mouse

<400> 31

Met	Thr	Arg	Ser	Pro	Ala	Leu	Leu	Leu	Leu	Leu	Gly	Ala	Leu	Pro
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Ser	Ala	Glu	Ala	Ala	Arg	Gly	Pro	Pro	Arg	Met	Ala	Asp	Lys	Val
			20					25				30		
Pro	Arg	Gln	Val	Ala	Arg	Leu	Gly	Arg	Thr	Val	Arg	Leu	Gln	Cys
		35				40					45			
Val	Glu	Gly	Asp	Pro	Pro	Pro	Leu	Thr	Met	Trp	Thr	Lys	Asp	Gly
	50					55					60			
Thr	Ile	His	Ser	Gly	Trp	Ser	Arg	Phe	Arg	Val	Leu	Pro	Gln	Gly
65				70					75					80
Lys	Val	Lys	Glu	Val	Glu	Ala	Glu	Asp	Ala	Gly	Val	Tyr	Val	Cys
			85					90					95	
Ala	Thr	Asn	Gly	Phe	Gly	Ser	Leu	Ser	Val	Asn	Tyr	Thr	Leu	Ile
		100					105					110		
Met	Asp	Asp	Ile	Ser	Pro	Gly	Lys	Glu	Ser	Pro	Gly	Pro	Gly	Gly
	115					120					125			
Ser	Gly	Gly	Gln	Glu	Asp	Pro	Ala	Ser	Gln	Gln	Trp	Ala	Arg	Pro
	130				135					140				
Phe	Thr	Gln	Pro	Ser	Lys	Met	Arg	Arg	Arg	Val	Ile	Ala	Arg	Pro
145				150					155					160
Gly	Ser	Ser	Val	Arg	Leu	Lys	Cys	Val	Ala	Ser	Gly	His	Pro	Arg
			165				170						175	
Asp	Ile	Met	Trp	Met	Lys	Asp	Asp	Gln	Thr	Leu	Thr	His	Leu	Glu
	180						185					190		
Ser	Glu	His	Arg	Lys	Lys	Lys	Trp	Thr	Leu	Ser	Leu	Lys	Asn	Leu
	195					200					205			
Pro	Glu	Asp	Ser	Gly	Lys	Tyr	Thr	Cys	Arg	Val	Ser	Asn	Lys	Ala
	210				215					220				
Ala	Ile	Asn	Ala	Thr	Tyr	Lys	Val	Asp	Val	Ile	Gln	Arg	Thr	Arg
225				230					235					240
Lys	Pro	Val	Leu	Thr	Gly	Thr	His	Pro	Val	Asn	Thr	Thr	Val	Asp
			245						250				255	
Gly	Gly	Thr	Thr	Ser	Phe	Gln	Cys	Lys	Val	Arg	Ser	Asp	Val	Lys
		260					265					270		
Val	Ile	Gln	Trp	Leu	Lys	Arg	Val	Glu	Tyr	Gly	Ser	Glu	Gly	Arg
	275					280					285			
Asn	Ser	Thr	Ile	Asp	Val	Gly	Gln	Lys	Phe	Val	Val	Leu	Pro	Thr
	290				295				300					
Gly	Asp	Val	Trp	Ser	Arg	Pro	Asp	Gly	Ser	Tyr	Leu	Asn	Lys	Leu
305				310					315					320
Ile	Ser	Arg	Ala	Arg	Gln	Asp	Asp	Ala	Gly	Met	Tyr	Ile	Cys	Leu
			325					330				335		
Ala	Asn	Thr	Met	Gly	Tyr	Ser	Phe	Arg	Ser	Ala	Phe	Leu	Thr	Val
			340					345				350		



Pro Asp Pro Lys Pro Pro Gly Pro Pro Met Ala Ser Ser Ser Ser Ser  
 355 360 365  
 Thr Ser Leu Pro Trp Pro Val Val Ile Gly Ile Pro Ala Gly Ala Val  
 370 375 380  
 Phe Ile Leu Gly Thr Val Leu Leu Trp Leu Cys Gln Thr Lys Lys Lys  
 385 390 395 400  
 Pro Cys Ala Pro Ala Ser Thr Leu Pro Val Pro Gly His Arg Pro Pro  
 405 410 415  
 Gly Thr Ser Arg Glu Arg Ser Gly Asp Lys Asp Leu Pro Ser Leu Ala  
 420 425 430  
 Val Gly Ile Cys Glu Glu His Gly Ser Ala Met Ala Pro Gln His Ile  
 435 440 445  
 Leu Ala Ser Gly Ser Thr Ala Gly Pro Lys Leu Tyr Pro Lys Leu Tyr  
 450 455 460  
 Thr Asp Val His Thr His Thr His Thr Cys Thr His Thr Leu  
 465 470 475 480  
 Ser Cys Gly Gly Gln Gly Ser Ser Thr Pro Ala Cys Pro Leu Ser Val  
 485 490 495  
 Leu Asn Thr Ala Asn Leu Gln Ala Leu Cys Pro Glu Val Gly Ile Trp  
 500 505 510  
 Gly Pro Arg Gln Gln Val Gly Arg Ile Glu Asn Asn Gly Gly Arg Val  
 515 520 525  
 Ser

<210> 32  
 <211> 439  
 <212> PRT  
 <213> Mouse

<400> 32  
 Met Thr Arg Ser Pro Ala Leu Leu Leu Leu Leu Gly Ala Leu Pro  
 1 5 10 15  
 Ser Ala Glu Ala Ala Arg Asp Asp Ile Ser Pro Gly Lys Glu Ser Pro  
 20 25 30  
 Gly Pro Gly Gly Ser Ser Gly Gly Gln Glu Asp Pro Ala Ser Gln Gln  
 35 40 45  
 Trp Ala Arg Pro Arg Phe Thr Gln Pro Ser Lys Met Arg Arg Arg Val  
 50 55 60  
 Ile Ala Arg Pro Val Gly Ser Ser Val Arg Leu Lys Cys Val Ala Ser  
 65 70 75 80  
 Gly His Pro Arg Pro Asp Ile Met Trp Met Lys Asp Asp Gln Thr Leu  
 85 90 95  
 Thr His Leu Glu Ala Ser Glu His Arg Lys Lys Lys Trp Thr Leu Ser  
 100 105 110  
 Leu Lys Asn Leu Lys Pro Glu Asp Ser Gly Lys Tyr Thr Cys Arg Val  
 115 120 125  
 Ser Asn Lys Ala Gly Ala Ile Asn Ala Thr Tyr Lys Val Asp Val Ile  
 130 135 140  
 Gln Arg Thr Arg Ser Lys Pro Val Leu Thr Gly Thr His Pro Val Asn  
 145 150 155 160  
 Thr Thr Val Asp Phe Gly Gly Thr Thr Ser Phe Gln Cys Lys Val Arg  
 165 170 175  
 Ser Asp Val Lys Pro Val Ile Gln Trp Leu Lys Arg Val Glu Tyr Gly  
 180 185 190  
 Ser Glu Gly Arg His Asn Ser Thr Ile Asp Val Gly Gly Gln Lys Phe  
 195 200 205

Val	Val	Leu	Pro	Thr	Gly	Asp	Val	Trp	Ser	Arg	Pro	Asp	Gly	Ser	Tyr
210						215					220				
Leu	Asn	Lys	Leu	Leu	Ile	Ser	Arg	Ala	Arg	Gln	Asp	Asp	Ala	Gly	Met
225					230					235					240
Tyr	Ile	Cys	Leu	Gly	Ala	Asn	Thr	Met	Gly	Tyr	Ser	Phe	Arg	Ser	Ala
			245						250					255	
Phe	Leu	Thr	Val	Leu	Pro	Asp	Pro	Lys	Pro	Pro	Pro	Gly	Pro	Pro	Met
			260					265					270		
Ala	Ser	Ser	Ser	Ser	Ser	Thr	Ser	Leu	Pro	Trp	Pro	Val	Val	Ile	Gly
		275					280					285			
Ile	Pro	Ala	Gly	Ala	Val	Phe	Ile	Leu	Gly	Thr	Val	Leu	Leu	Trp	Leu
	290					295					300				
Cys	Gln	Thr	Lys	Lys	Lys	Pro	Cys	Ala	Pro	Ala	Ser	Thr	Leu	Pro	Val
305					310					315					320
Pro	Gly	His	Arg	Pro	Pro	Gly	Thr	Ser	Arg	Glu	Arg	Ser	Gly	Asp	Lys
				325					330					335	
Asp	Leu	Pro	Ser	Leu	Ala	Val	Gly	Ile	Cys	Glu	Glu	His	Gly	Ser	Ala
			340					345					350		
Met	Ala	Pro	Gln	His	Ile	Leu	Ala	Ser	Gly	Ser	Thr	Ala	Gly	Pro	Lys
	355						360					365			
Leu	Tyr	Pro	Lys	Leu	Tyr	Thr	Asp	Val	His	Thr	His	Thr	His	Thr	His
	370					375					380				
Thr	Cys	Thr	His	Thr	Leu	Ser	Cys	Gly	Gly	Gln	Gly	Ser	Ser	Thr	Pro
385					390					395					400
Ala	Cys	Pro	Leu	Ser	Val	Leu	Asn	Thr	Ala	Asn	Leu	Gln	Ala	Leu	Cys
			405						410					415	
Pro	Glu	Val	Gly	Ile	Trp	Gly	Pro	Arg	Gln	Gln	Val	Gly	Arg	Ile	Glu
		420						425					430		
Asn	Asn	Gly	Gly	Arg	Val	Ser									
		435													

<210> 33  
 <211> 322  
 <212> PRT  
 <213> Human

<400> 33

Arg	Arg	Ala	Pro	Cys	Cys	Cys	Ser	Cys	Cys	Arg	Arg	Cys	Cys	Trp	Gly
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Pro	Ser	His	Arg	Pro	Pro	Pro	Pro	Glu	Ala	Pro	Gln	Arg	Trp	Arg	Thr
			20					25					30		
Arg	Trp	Ser	His	Gly	Arg	Trp	Pro	Ala	Gly	Pro	His	Cys	Ala	Ala	Ala
		35					40					45			
Val	Pro	Val	Glu	Gly	Asp	Pro	Pro	Pro	Leu	Thr	Met	Trp	Thr	Lys	Asp
	50					55					60				
Gly	Arg	Thr	Ile	His	Ser	Gly	Trp	Ser	Arg	Phe	Arg	Val	Leu	Pro	Gln
65				70						75				80	
Gly	Leu	Lys	Val	Lys	Gln	Val	Glu	Arg	Glu	Asp	Ala	Gly	Val	Tyr	Val
			85						90					95	
Cys	Lys	Ala	Thr	Asn	Gly	Phe	Gly	Ser	Leu	Ser	Val	Asn	Tyr	Thr	Leu
			100					105					110		
Val	Val	Leu	Asp	Asp	Ile	Ser	Pro	Gly	Lys	Glu	Ser	Leu	Gly	Pro	Asp
		115					120					125			
Ser	Ser	Ser	Gly	Gly	Gln	Glu	Asp	Pro	Ala	Ser	Gln	Gln	Trp	Ala	Arg
	130					135					140				
Pro	Arg	Phe	Thr	Gln	Pro	Ser	Lys	Met	Arg	Arg	Arg	Val	Ile	Ala	Arg
145					150					155					160

Pro	Val	Gly	Ser	Ser	Val	Arg	Leu	Lys	Cys	Val	Ala	Ser	Gly	His	Pro
			165						170					175	
Arg	Pro	Asp	Ile	Thr	Trp	Met	Lys	Asp	Asp	Gln	Ala	Leu	Thr	Arg	Pro
		180						185					190		
Glu	Ala	Ala	Glu	Pro	Arg	Lys	Lys	Lys	Trp	Thr	Leu	Ser	Leu	Lys	Asn
		195					200					205			
Leu	Arg	Pro	Glu	Asp	Ser	Gly	Lys	Tyr	Thr	Cys	Arg	Val	Ser	Asn	Arg
	210					215				220					
Ala	Gly	Ala	Ile	Asn	Ala	Thr	Tyr	Lys	Val	Asp	Val	Ile	Gln	Arg	Thr
225				230						235				240	
Arg	Ser	Lys	Pro	Val	Leu	Thr	Gly	Thr	His	Pro	Val	Asn	Thr	Thr	Val
			245						250				255		
Asp	Phe	Gly	Gly	Thr	Thr	Ser	Phe	Gln	Cys	Lys	Val	Arg	Ser	Asp	Val
		260						265					270		
Lys	Pro	Val	Ile	Gln	Trp	Leu	Lys	Arg	Val	Glu	Tyr	Gly	Ala	Glu	Gly
	275					280						285			
Arg	His	Asn	Ser	Thr	Ile	Asp	Val	Gly	Gly	Gln	Lys	Phe	Val	Val	Leu
	290					295					300				
Pro	Thr	Gly	Asp	Val	Trp	Ser	Arg	Pro	Asp	Gly	Ser	Tyr	Leu	Asn	Lys
305					310					315				320	
Pro	Leu														

<210> 34  
 <211> 102  
 <212> PRT  
 <213> Mouse

<400> 34															
Met	Lys	Phe	Leu	Ile	Ser	Leu	Ala	Leu	Trp	Leu	Gly	Thr	Val	Gly	
1			5					10					15		
Thr	Arg	Gly	Thr	Glu	Pro	Glu	Leu	Ser	Glu	Thr	Gln	Arg	Arg	Ser	Leu
			20					25				30			
Gln	Val	Ala	Leu	Glu	Glu	Phe	His	Lys	His	Pro	Pro	Val	Gln	Leu	Ala
		35				40						45			
Phe	Gln	Glu	Ile	Gly	Val	Asp	Arg	Ala	Glu	Glu	Val	Leu	Phe	Ser	Ala
	50					55					60				
Gly	Thr	Phe	Val	Arg	Leu	Glu	Phe	Lys	Leu	Gln	Gln	Thr	Asn	Cys	Pro
65				70						75				80	
Lys	Lys	Asp	Trp	Lys	Lys	Pro	Glu	Cys	Thr	Ile	Lys	Pro	Asn	Gly	Ala
			85					90					95		
Glu	Met	Pro	Gly	Leu	His										
			100												

<210> 35  
 <211> 147  
 <212> PRT  
 <213> Mouse

<400> 35															
Met	Lys	Phe	Leu	Leu	Ile	Ser	Leu	Ala	Leu	Trp	Leu	Gly	Thr	Val	Gly
1			5						10					15	
Thr	Arg	Gly	Thr	Glu	Pro	Glu	Leu	Ser	Glu	Thr	Gln	Arg	Arg	Ser	Leu
			20					25				30			
Gln	Val	Ala	Leu	Glu	Glu	Phe	His	Lys	His	Pro	Pro	Val	Gln	Leu	Ala
		35				40						45			
Phe	Gln	Glu	Ile	Gly	Val	Asp	Arg	Ala	Glu	Glu	Val	Leu	Phe	Ser	Ala

50		55		60
Gly Thr Phe Val Arg Leu	Glu Phe Lys Leu Gln	Gln Thr Asn Cys Pro		
65	70	75	80	
Lys Lys Asp Trp Lys Lys Pro	Glu Cys Thr Ile Lys Pro	Asn Gly Arg		
	85	90	95	
Arg Arg Lys Cys Leu Ala Cys	Ile Lys Met Asp Pro Lys	Gly Lys Ile		
	100	105	110	
Leu Gly Arg Ile Val His Cys	Pro Ile Leu Lys Gln Gly	Pro Gln Asp		
	115	120	125	
Pro Gln Glu Leu Gln Cys Ile	Lys Ile Ala Gln Ala Gly	Glu Asp Pro		
	130	135	140	
His Gly Tyr				
145				

<210> 36  
 <211> 574  
 <212> PRT  
 <213> Mouse

<400> 36
Met Glu Ser Leu Cys Gly Val Leu Gly Phe Leu Leu Leu Ala Ala Gly
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Leu Pro Leu Gln Ala Ala Lys Arg Phe Arg Asp Val Leu Gly His Glu
20 25 30
Gln Tyr Pro Asn His Met Arg Glu His Asn Gln Leu Arg Gly Trp Ser
35 40 45
Ser Asp Glu Asn Glu Trp Asp Glu His Leu Tyr Pro Val Trp Arg Arg
50 55 60
Gly Asp Gly Arg Trp Lys Asp Ser Trp Glu Gly Arg Val Gln Ala
65 70 75 80
Val Leu Thr Ser Asp Ser Pro Ala Leu Val Gly Ser Asn Ile Thr Phe
85 90 95
Val Val Asn Leu Val Phe Pro Arg Cys Gln Lys Glu Asp Ala Asn Gly
100 105 110
Asn Ile Val Tyr Glu Lys Asn Cys Arg Asn Asp Leu Gly Leu Thr Ser
115 120 125
Asp Leu His Val Tyr Asn Trp Thr Ala Gly Ala Asp Asp Gly Asp Trp
130 135 140
Glu Asp Gly Thr Ser Arg Ser Gln His Leu Arg Phe Pro Asp Arg Arg
145 150 155 160
Pro Phe Pro Arg Pro His Gly Trp Lys Lys Trp Ser Phe Val Tyr Val
165 170 175
Phe His Thr Leu Gly Gln Tyr Phe Gln Lys Leu Gly Arg Cys Ser Ala
180 185 190
Arg Val Ser Ile Asn Thr Val Asn Leu Thr Ala Gly Pro Gln Val Met
195 200 205
Glu Val Thr Val Phe Arg Arg Tyr Gly Arg Ala Tyr Ile Pro Ile Ser
210 215 220
Lys Val Lys Asp Val Tyr Val Ile Thr Asp Gln Ile Pro Val Phe Val
225 230 235 240
Thr Met Ser Gln Lys Asn Asp Arg Asn Leu Ser Asp Glu Ile Phe Leu
245 250 255
Arg Asp Leu Pro Ile Val Phe Asp Val Leu Ile His Asp Pro Ser His
260 265 270
Phe Leu Asn Asp Ser Ala Ile Ser Tyr Lys Trp Asn Phe Gly Asp Asn
275 280 285
Thr Gly Leu Phe Val Ser Asn Asn His Thr Leu Asn His Thr Tyr Val

290	295	300
Leu Asn Gly Thr Phe Asn Leu Asn Leu Thr Val Gln Thr Ala Val Pro		
305	310	315
Gly Pro Cys Pro Pro Pro Ser Pro Ser Thr Pro Pro Pro Pro Ser Thr		
	325	330
Pro Pro Ser Pro Pro Pro Ser Pro Leu Pro Thr Leu Ser Thr Pro Ser		
	340	345
Pro Ser Leu Met Pro Thr Gly Tyr Lys Ser Met Glu Leu Ser Asp Ile		
	355	360
Ser Asn Glu Asn Cys Arg Ile Asn Arg Tyr Gly Tyr Phe Arg Ala Thr		
	370	375
Ile Thr Ile Val Glu Gly Ile Leu Glu Val Ser Ile Met Gln Ile Ala		
385	390	395
Asp Val Pro Met Pro Thr Pro Gln Pro Ala Asn Ser Leu Met Asp Phe		
	405	410
Thr Val Thr Cys Lys Gly Ala Thr Pro Met Glu Ala Cys Thr Ile Ile		
	420	425
Ser Asp Pro Thr Cys Gln Ile Ala Gln Asn Arg Val Cys Ser Pro Val		
	435	440
Ala Val Asp Gly Leu Cys Leu Leu Ser Val Arg Arg Ala Phe Asn Gly		
	450	455
Ser Gly Thr Tyr Cys Val Asn Phe Thr Leu Gly Asp Asp Ala Ser Leu		
465	470	475
Ala Leu Thr Ser Thr Leu Ile Ser Ile Pro Gly Lys Asp Pro Asp Ser		
	485	490
Pro Leu Arg Ala Val Asn Gly Val Leu Ile Ser Ile Gly Cys Leu Ala		
	500	505
Val Leu Val Thr Met Val Thr Ile Leu Leu Tyr Lys Lys His Lys Ala		
	515	520
Tyr Lys Pro Ile Gly Asn Cys Pro Arg Asn Thr Val Lys Gly Lys Gly		
	530	535
Leu Ser Val Leu Leu Ser His Ala Lys Ala Pro Phe Phe Arg Gly Asp		
545	550	555
Gln Glu Lys Asp Pro Leu Leu Gln Asp Lys Pro Arg Thr Leu		
	565	570

<210> 37  
 <211> 137  
 <212> PRT  
 <213> Mouse

<400> 37
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Ala Gly Thr Cys Thr Pro Asn Gln Glu Ala Pro Gly Gly Gly Arg Gly
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Met Ala Gly Pro Ser Trp Gly Leu Pro Arg Leu Asp Gly Phe Ile Leu
35 40 45
Thr Glu Arg Leu Gly Ser Gly Thr Tyr Ala Thr Val Tyr Lys Ala Tyr
50 55 60
Ala Lys Lys Asp Thr Arg Glu Val Val Ala Ile Lys Cys Val Ala Lys
65 70 75 80
Lys Ser Leu Asn Lys Ala Ser Val Glu Asn Leu Leu Thr Glu Ile Glu
85 90 95
Ile Leu Lys Gly Ile Arg His Pro His Ile Val Gln Leu Lys Asp Phe
100 105 110
Gln Trp Asp Asn Asp Asn Ile Tyr Leu Ile Met Glu Phe Cys Ala Gly

115 120 125  
 Gly Asp Leu Ser Arg Phe Ile His Thr  
 130 135

<210> 38  
 <211> 72  
 <212> PRT  
 <213> Mouse

<400> 38  
 Thr Val Leu Phe Leu Val Ala Leu Ile Thr Val Gly Met Asn Thr Thr  
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 Lys Pro Ser Pro Glu Ser Val Gly Ile Cys Val Asp Gln Cys Ser Gly  
 35 40 45  
 Asp Gly Ser Cys Pro Gly Asn Met Lys Cys Cys Ser Asn Ser Cys Gly  
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 His Val Cys Lys Thr Pro Val Phe  
 65 70

<210> 39  
 <211> 1587  
 <212> DNA  
 <213> Mouse

<400> 39  
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 gagacagcgg cacagcgtg cttctgccag gttagtgggt acctggacga ctgtacctgt 180  
 gatgtcgaga ccatcgataa gtttaataac tacagacttt tcccaagact acaaaagctt 240  
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 aatgacatca accagtgtgg aagaagagac tgtgccgtca aaccctgcca ttctgatgaa 360  
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 aaagctgtac ttcagtggac caagcatgat gattcgtcag acagcttctg cgaaattgac 540  
 gatatacagt ccccgatgct tgagtatgtg gacttactcc ttaaccctga gcgctacaca 600  
 ggctacaagg ggccagacgc ttggaggata tggagtgtca tctatgaaga aaactgtttt 660  
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 ttttacaact ggctagaagg cctctgtgta gaaaagagag cattctacag acttatatct 780  
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 aaaaaaaaaa aaaaaaaaaa aaaaaaa 1587

<210> 40  
 <211> 2435

<212> DNA  
<213> Mouse

<400> 40

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agaagcgtct	atgattcctt	cagataccaa	ggactggcct	tctcagtatt	ttttgtttgt	420
gtagcattca	cttcaaatat	catatgtctc	ctcttcattc	ccatacaatg	gctttttttc	480
gctgctagca	catatgtatg	ggtccagtac	gtatggcaca	cagaaagggg	agtgtgtttg	540
cctacagtgt	cactctggat	cctctttgtt	tatattgaag	cagcaattag	atttaaagat	600
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<210> 41  
<211> 1720  
<212> DNA  
<213> Mouse

<400> 41

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caatgttcta	aacaagggtg	agtacgctca	gcagcgctgg	aagctccagg	tccaggagca	660
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taaaataatt	tacaaaacc	aaaaaaaaa	aaaaaaaaa			1720

<210> 42  
 <211> 1008  
 <212> DNA  
 <213> Mouse

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caccacggtg	ctgcagggca	tggccggcca	gtccttgagg	gtgtcatgta	cttatgacgc	180
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actggtgtgt	acatctgtgt	tgagtgggga	agacagctgg	atggttgtct	gtcaagttct	960
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<210> 43  
 <211> 1871  
 <212> DNA  
 <213> Mouse

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<210> 44

<211> 3767

<212> DNA

<213> Mouse

<400> 44

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aaatcaccat	gatgtggccc	caaccaccca	ccttctccct	gttctgtcta	ctgctgctaa	180
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accacaggtg	gaacctcatc	tcagccagcg	tcgtgtgtcg	ccagcttggc	tttggctctg	1200



gtggcgggcg	tggtggccgc	cgtggcgggc	gcgggtgtcga	gcttcgtggc	ctatcagcgg	480
cgggcgctgt	gcttccgcga	ggggcggtcc	gcccccggtg	agatgacgcc	atggccccgc	540
ccctccgggc	atcatcgccc	cctccagggc	cccgatgaca	tactgacgc	tgctcatttg	600
catacgcgct	ccgccccgct	gtgacgtcac	tgaccccgcc	cccggcctcg	cctgaatatg	660
caaatagtcg	gccccgcctc	ccgccgtgaa	atcaccgcct	gcaccgcccc	tcgccgctgc	720
atcagtgatg	tactactg	caaagactcc	gccacaact	gacctctgac	cccggtgaca	780
tcataacctc	cactcacaag	gagccatcat	gggcagcccc	ctgtctcagc	tcagcatccc	840
ctccaggaca	ggaagggg	gagcctgaag	gccggggg	ggaccggaaa	taaaggcgga	900
gttttgtaaa	aaaaaaaa	aaaaa				925

<210> 46  
 <211> 1423  
 <212> DNA  
 <213> Mouse

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gatgaccaga	ccttgacgca	tctagaggct	agtgaacaca	gaaagaagaa	gtggacactg	120
agcttgaaga	acctgaagcc	tgaagacagt	ggcaagtaca	cgtgccgtgt	atctaacaag	180
gccgggtgcc	tcaacgccac	ctacaaagtg	gatgtaatcc	gtgagtgggtg	ggctctgtgg	240
aggacagggg	ccggtgggtg	ctaaaactgt	gctgacatgt	ttgtttttcc	ttggcttaga	300
gcggaactcg	tccaagcctg	tgctcacagg	gacacaccct	gtgaacacaa	cggtggactt	360
cggtgggaca	acgtccttcc	agtgaaggt	gcgcagtga	gtgaagcctg	tgatccagt	420
gctgaagcgg	gtggagtacg	gctccgagg	acgccacaac	tccaccattg	atgtgggtgg	480
ccagaagttt	gtggtgttgc	ccacgggtga	tgtgtgggtca	cggcctgatg	gctcctacct	540
caacaagctg	ctcatctctc	gggcccgcga	ggatgatgct	ggcatgtaca	tctgcctagg	600
tgcaaatacc	atgggctaca	gtttccgtag	cgcttctctc	actgtattac	caggtgtgtg	660
tgtgggctgc	ccaccccatg	tttactctca	gtctctacca	ttggtctggg	ctgtcctggg	720
gttccccaat	gtccacttag	caagtggggc	ctccctatcc	ttttcccttc	gttgtgggtt	780
atccttgctc	catagggagt	tcaggggtgc	tgcccatata	gttcacattt	gggctgggtg	840
ccccattaat	atagggacat	tctgtccctc	actcttcttc	ttaatctctc	ttgcagacct	900
caaacctcca	gggctcctca	tggttctctc	atcgtctctc	acaagcctgc	catggcctgt	960
gggtgatcgg	atcccagctg	gtgctgtctt	catcctaggc	actgtgctgc	tctggctttg	1020
ccagaccaag	aagaagccat	gtgccccagc	atctacactt	cctgtgcctg	ggcatcgctc	1080
cccagggaca	ttccgagaac	gcagtgggtga	caaggacctg	ccctcattgg	ctgtgggcat	1140
atgtgaggag	catggatccg	ccatggcccc	ccagcacatc	ctggcctctg	gctcaactgc	1200
tgcccccaag	ctgtacccca	agctatacac	agatgtgcac	acacacacac	atacacacac	1260
ctgcactcac	acgtctctcat	gtggagggca	aggttcatca	acaccagcat	gtccactatc	1320
agtgtctaat	acagcgaatc	tccaagcact	gtgtcctgag	gtaggcatat	gggggccaag	1380
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<210> 47  
 <211> 464  
 <212> PRT  
 <213> Mouse

<400> 47															
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			20					25					30		
Gln	Arg	Cys	Phe	Cys	Gln	Val	Ser	Gly	Tyr	Leu	Asp	Asp	Cys	Thr	Cys
		35					40				45				
Asp	Val	Glu	Thr	Ile	Asp	Lys	Phe	Asn	Asn	Tyr	Arg	Leu	Phe	Pro	Arg
	50					55				60					
Leu	Gln	Lys	Leu	Leu	Glu	Ser	Asp	Tyr	Phe	Arg	Tyr	Tyr	Lys	Val	Asn
65					70					75					80

Leu	Lys	Lys	Pro	Cys	Pro	Phe	Trp	Asn	Asp	Ile	Asn	Gln	Cys	Gly	Arg	
				85					90					95		
Arg	Asp	Cys	Ala	Val	Lys	Pro	Cys	His	Ser	Asp	Glu	Val	Pro	Asp	Gly	
			100					105					110			
Ile	Lys	Ser	Ala	Ser	Tyr	Lys	Tyr	Ser	Glu	Glu	Ala	Asn	Arg	Ile	Glu	
			115				120					125				
Glu	Cys	Glu	Gln	Ala	Glu	Arg	Leu	Gly	Ala	Val	Asp	Glu	Ser	Leu	Ser	
			130			135					140					
Glu	Glu	Thr	Gln	Lys	Ala	Val	Leu	Gln	Trp	Thr	Lys	His	Asp	Asp	Ser	
145					150					155					160	
Ser	Asp	Ser	Phe	Cys	Glu	Ile	Asp	Asp	Ile	Gln	Ser	Pro	Asp	Ala	Glu	
				165				170						175		
Tyr	Val	Asp	Leu	Leu	Leu	Asn	Pro	Glu	Arg	Tyr	Thr	Gly	Tyr	Lys	Gly	
			180					185				190				
Pro	Asp	Ala	Trp	Arg	Ile	Trp	Ser	Val	Ile	Tyr	Glu	Glu	Asn	Cys	Phe	
			195				200					205				
Lys	Pro	Gln	Thr	Ile	Gln	Arg	Pro	Leu	Ala	Ser	Gly	Arg	Gly	Lys	Ser	
			210			215					220					
Lys	Glu	Asn	Thr	Phe	Tyr	Asn	Trp	Leu	Glu	Gly	Leu	Cys	Val	Glu	Lys	
225					230					235					240	
Arg	Ala	Phe	Tyr	Arg	Leu	Ile	Ser	Gly	Leu	His	Ala	Ser	Ile	Asn	Val	
				245				250						255		
His	Leu	Ser	Ala	Arg	Tyr	Leu	Leu	Gln	Asp	Thr	Trp	Leu	Glu	Lys	Lys	
			260					265					270			
Trp	Gly	His	Asn	Val	Thr	Glu	Phe	Gln	Gln	Arg	Phe	Asp	Gly	Ile	Leu	
			275				280					285				
Thr	Glu	Gly	Glu	Gly	Pro	Arg	Arg	Leu	Arg	Asn	Leu	Tyr	Phe	Leu	Tyr	
			290			295				300						
Leu	Ile	Glu	Leu	Arg	Ala	Leu	Ser	Lys	Val	Leu	Pro	Phe	Phe	Glu	Arg	
305					310					315					320	
Pro	Asp	Phe	Gln	Leu	Phe	Thr	Gly	Asn	Lys	Val	Gln	Asp	Ala	Glu	Asn	
				325				330					335			
Lys	Ala	Leu	Leu	Leu	Glu	Ile	Leu	His	Glu	Ile	Lys	Ser	Phe	Pro	Leu	
			340					345					350			
His	Phe	Asp	Glu	Asn	Ser	Phe	Phe	Ala	Gly	Asp	Lys	Asn	Glu	Ala	His	
			355				360					365				
Lys	Leu	Lys	Glu	Asp	Phe	Arg	Leu	His	Phe	Arg	Asn	Ile	Ser	Arg	Ile	
			370			375					380					
Met	Asp	Cys	Val	Gly	Cys	Phe	Lys	Cys	Arg	Leu	Trp	Gly	Lys	Leu	Gln	
385					390					395					400	
Thr	Gln	Gly	Leu	Gly	Thr	Ala	Leu	Lys	Ile	Leu	Phe	Ser	Glu	Lys	Leu	
				405				410					415			
Ile	Ala	Asn	Met	Pro	Glu	Ser	Gly	Pro	Ser	Tyr	Glu	Phe	Gln	Leu	Thr	
			420				425						430			
Arg	Gln	Glu	Ile	Val	Ser	Leu	Phe	Asn	Ala	Phe	Gly	Arg	Ile	Ser	Thr	
			435				440					445				
Ser	Val	Arg	Glu	Leu	Glu	Asn	Phe	Arg	His	Leu	Leu	Gln	Asn	Val	His	
			450			455					460					

<210> 48  
 <211> 664  
 <212> PRT  
 <213> Mouse

<400> 48  
 Met Lys Arg Arg Asn Ala Asp Cys Ser Lys Leu Arg Arg Pro Leu Lys  
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Arg	Asn	Arg	Ile	Thr	Glu	Gly	Ile	Tyr	Gly	Ser	Thr	Phe	Leu	Tyr	Leu
			20					25					30		
Lys	Phe	Leu	Val	Val	Trp	Ala	Leu	Val	Leu	Leu	Ala	Asp	Phe	Val	Leu
		35					40					45			
Glu	Phe	Arg	Phe	Glu	Tyr	Leu	Trp	Pro	Phe	Trp	Leu	Phe	Ile	Arg	Ser
		50				55					60				
Val	Tyr	Asp	Ser	Phe	Arg	Tyr	Gln	Gly	Leu	Ala	Phe	Ser	Val	Phe	Phe
65					70					75					80
Val	Cys	Val	Ala	Phe	Thr	Ser	Asn	Ile	Ile	Cys	Leu	Leu	Phe	Ile	Pro
				85					90					95	
Ile	Gln	Trp	Leu	Phe	Phe	Ala	Ala	Ser	Thr	Tyr	Val	Trp	Val	Gln	Tyr
		100						105					110		
Val	Trp	His	Thr	Glu	Arg	Gly	Val	Cys	Leu	Pro	Thr	Val	Ser	Leu	Trp
		115					120					125			
Ile	Leu	Phe	Val	Tyr	Ile	Glu	Ala	Ala	Ile	Arg	Phe	Lys	Asp	Leu	Lys
		130				135					140				
Asn	Phe	His	Val	Asp	Leu	Cys	Arg	Pro	Phe	Ala	Ala	His	Cys	Ile	Gly
145					150					155					160
Tyr	Pro	Val	Val	Thr	Leu	Gly	Phe	Gly	Phe	Lys	Ser	Tyr	Val	Ser	Tyr
				165					170					175	
Lys	Met	Arg	Leu	Arg	Lys	Gln	Lys	Glu	Val	Gln	Lys	Glu	Asn	Glu	Phe
			180					185					190		
Tyr	Met	Gln	Leu	Leu	Gln	Gln	Ala	Leu	Pro	Pro	Glu	Gln	Gln	Met	Leu
		195					200					205			
Gln	Lys	Gln	Glu	Lys	Glu	Ala	Glu	Glu	Ala	Ala	Lys	Gly	Leu	Pro	Asp
		210				215					220				
Met	Asp	Ser	Ser	Ile	Leu	Ile	His	His	Asn	Gly	Gly	Ile	Pro	Ala	Asn
225				230						235					240
Lys	Lys	Leu	Ser	Thr	Thr	Leu	Pro	Glu	Ile	Glu	Tyr	Arg	Glu	Lys	Gly
				245					250					255	
Lys	Glu	Lys	Asp	Lys	Asp	Ala	Lys	Lys	His	Asn	Leu	Gly	Ile	Asn	Asn
			260					265					270		
Asn	Asn	Ile	Leu	Gln	Pro	Val	Asp	Ser	Lys	Ile	Gln	Glu	Ile	Glu	Tyr
		275					280					285			
Met	Glu	Asn	His	Ile	Asn	Ser	Lys	Arg	Leu	Asn	Asn	Asp	Leu	Val	Gly
		290				295					300				
Ser	Thr	Glu	Asn	Leu	Leu	Lys	Glu	Asp	Ser	Cys	Thr	Ala	Ser	Ser	Lys
305				310						315					320
Asn	Tyr	Lys	Asn	Ala	Ser	Gly	Val	Val	Asn	Ser	Ser	Pro	Arg	Ser	His
				325					330					335	
Ser	Ala	Thr	Asn	Gly	Ser	Ile	Pro	Ser	Ser	Ser	Ser	Lys	Asn	Glu	Lys
			340					345					350		
Lys	Gln	Lys	Cys	Thr	Ser	Lys	Gly	Pro	Ser	Ala	His	Lys	Asp	Leu	Met
		355					360					365			
Glu	Asn	Cys	Ile	Pro	Asn	Asn	Gln	Leu	Ser	Lys	Pro	Asp	Ala	Leu	Val
		370				375					380				
Arg	Leu	Glu	Gln	Asp	Ile	Lys	Lys	Leu	Lys	Ala	Asp	Leu	Gln	Ala	Ser
385				390						395					400
Arg	Gln	Val	Glu	Gln	Glu	Leu	Arg	Ser	Gln	Ile	Ser	Ala	Leu	Ser	Ser
				405					410					415	
Thr	Glu	Arg	Gly	Ile	Arg	Ser	Glu	Met	Gly	Gln	Leu	Arg	Gln	Glu	Asn
			420					425					430		
Glu	Leu	Leu	Gln	Asn	Lys	Leu	His	Asn	Ala	Val	Gln	Met	Lys	Gln	Lys
		435					440					445			
Asp	Lys	Gln	Asn	Ile	Ser	Gln	Leu	Glu	Lys	Lys	Leu	Lys	Ala	Glu	Gln
		450				455					460				
Glu	Ala	Arg	Ser	Phe	Val	Glu	Lys	Gln	Leu	Met	Glu	Glu	Lys	Lys	Arg

465                      470                      475                      480  
 Lys Lys Leu Glu Glu Ala Thr Ala Ala Arg Ala Val Ala Phe Ala Ala  
                                  485                      490                      495  
 Ala Ser Arg Gly Glu Cys Thr Glu Thr Leu Arg Ser Arg Ile Arg Glu  
                                  500                      505                      510  
 Leu Glu Ala Glu Gly Lys Lys Leu Thr Met Asp Met Lys Val Lys Glu  
                                  515                      520                      525  
 Glu Gln Ile Arg Glu Leu Glu Leu Lys Val Gln Glu Leu Arg Lys Tyr  
                                  530                      535                      540  
 Lys Glu Asn Glu Lys Asp Thr Glu Val Leu Met Ser Ala Leu Ser Ala  
 545                      550                      555                      560  
 Met Gln Asp Lys Thr Gln His Leu Glu Asn Ser Leu Ser Ala Glu Thr  
                                  565                      570                      575  
 Arg Ile Lys Leu Asp Leu Phe Ser Ala Leu Gly Asp Ala Lys Arg Gln  
                                  580                      585                      590  
 Leu Glu Ile Ala Gln Gly Gln Ile Leu Gln Lys Asp Gln Glu Ile Lys  
                                  595                      600                      605  
 Asp Leu Lys Gln Lys Ile Ala Glu Val Met Ala Val Met Pro Ser Ile  
                                  610                      615                      620  
 Thr Tyr Ser Ala Ala Thr Ser Pro Leu Ser Pro Val Ser Pro His Tyr  
 625                      630                      635                      640  
 Ser Ser Lys Phe Val Glu Thr Ser Pro Ser Gly Leu Asp Pro Asn Ala  
                                  645                      650                      655  
 Ser Val Tyr Gln Pro Leu Lys Lys  
                                  660

<210> 49  
 <211> 199  
 <212> PRT  
 <213> Mouse

<400> 49  
 Met Ala Ser Leu Trp Cys Gly Asn Leu Leu Arg Leu Gly Ser Gly Leu  
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 Asn Met Ser Cys Leu Ala Leu Ser Val Leu Leu Leu Ala Gln Leu Thr  
                                  20                      25                      30  
 Gly Ala Ala Lys Asn Phe Glu Asp Val Arg Cys Lys Cys Ile Cys Pro  
                                  35                      40                      45  
 Pro Tyr Lys Glu Asn Pro Gly His Ile Tyr Asn Lys Asn Ile Ser Gln  
                                  50                      55                      60  
 Lys Asp Cys Asp Cys Leu His Val Val Glu Pro Met Pro Val Arg Gly  
 65                      70                      75                      80  
 Pro Asp Val Glu Ala Tyr Cys Leu Arg Cys Glu Cys Lys Tyr Glu Glu  
                                  85                      90                      95  
 Arg Ser Ser Val Thr Ile Lys Val Thr Ile Ile Ile Tyr Leu Ser Ile  
                                  100                      105                      110  
 Leu Gly Leu Leu Leu Tyr Met Val Tyr Leu Thr Leu Val Glu Pro  
                                  115                      120                      125  
 Ile Leu Lys Arg Arg Leu Phe Gly His Ser Gln Leu Leu Gln Ser Asp  
                                  130                      135                      140  
 Asp Asp Val Gly Asp His Gln Pro Phe Ala Asn Ala His Asp Val Leu  
 145                      150                      155                      160  
 Ala Arg Ser Arg Ser Arg Ala Asn Val Leu Asn Lys Val Glu Tyr Ala  
                                  165                      170                      175  
 Gln Gln Arg Trp Lys Leu Gln Val Gln Glu Gln Arg Lys Ser Val Phe  
                                  180                      185                      190  
 Asp Arg His Val Val Leu Ser

195

<210> 50  
<211> 227  
<212> PRT  
<213> Mouse

<400> 50

Met	Gly	Pro	Leu	His	Gln	Phe	Leu	Leu	Leu	Leu	Ile	Thr	Ala	Leu	Ser
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Gln	Ala	Leu	Asn	Thr	Thr	Val	Leu	Gln	Gly	Met	Ala	Gly	Gln	Ser	Leu
			20					25					30		
Arg	Val	Ser	Cys	Thr	Tyr	Asp	Ala	Leu	Lys	His	Trp	Gly	Arg	Arg	Lys
		35					40					45			
Ala	Trp	Cys	Arg	Gln	Leu	Gly	Glu	Glu	Gly	Pro	Cys	Gln	Arg	Val	Val
	50					55					60				
Ser	Thr	His	Gly	Val	Trp	Leu	Leu	Ala	Phe	Leu	Lys	Lys	Arg	Asn	Gly
65					70					75					80
Ser	Thr	Val	Ile	Ala	Asp	Asp	Thr	Leu	Ala	Gly	Thr	Val	Thr	Ile	Thr
				85					90					95	
Leu	Lys	Asn	Leu	Gln	Ala	Gly	Asp	Ala	Gly	Leu	Tyr	Gln	Cys	Gln	Ser
			100					105					110		
Leu	Arg	Gly	Arg	Glu	Ala	Glu	Val	Leu	Gln	Lys	Val	Leu	Val	Glu	Val
		115					120					125			
Leu	Glu	Asp	Pro	Leu	Asp	Asp	Gln	Asp	Ala	Gly	Asp	Leu	Trp	Val	Pro
	130					135					140				
Glu	Glu	Ser	Ser	Ser	Phe	Glu	Gly	Ala	Gln	Val	Glu	His	Ser	Thr	Ser
145					150					155					160
Arg	Asn	Gln	Glu	Thr	Ser	Phe	Pro	Pro	Thr	Ser	Ile	Leu	Leu	Leu	Leu
				165					170					175	
Ala	Cys	Val	Leu	Ser	Lys	Phe	Leu	Ala	Ala	Ser	Ile	Leu	Trp	Ala	
			180				185					190			
Val	Ala	Arg	Gly	Arg	Gln	Lys	Pro	Gly	Thr	Pro	Val	Val	Arg	Gly	Leu
		195					200					205			
Asp	Cys	Gly	Gln	Asp	Ala	Gly	His	Gln	Leu	Gln	Ile	Leu	Thr	Gly	Pro
	210					215					220				
Gly	Gly	Thr													
225															

<210> 51  
<211> 503  
<212> PRT  
<213> Mouse

<400> 51

Met	Gly	Thr	Gly	Ala	Gly	Gly	Pro	Ser	Val	Leu	Ala	Leu	Leu	Phe	Ala
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Val	Cys	Ala	Pro	Leu	Arg	Leu	Gln	Ala	Glu	Glu	Leu	Gly	Asp	Gly	Cys
			20					25					30		
Gly	His	Ile	Val	Thr	Ser	Gln	Asp	Ser	Gly	Thr	Met	Thr	Ser	Lys	Asn
		35					40					45			
Tyr	Pro	Gly	Thr	Tyr	Pro	Asn	Tyr	Thr	Val	Cys	Glu	Lys	Ile	Ile	Thr
	50					55					60				
Val	Pro	Lys	Gly	Lys	Arg	Leu	Ile	Leu	Arg	Leu	Gly	Asp	Leu	Asn	Ile
65					70					75					80
Glu	Ser	Lys	Thr	Cys	Ala	Ser	Asp	Tyr	Leu	Leu	Phe	Ser	Ser	Ala	Thr
				85					90					95	

Asp	Gln	Tyr	Gly	Pro	Tyr	Cys	Gly	Ser	Trp	Ala	Val	Pro	Lys	Glu	Leu		
			100					105					110				
Arg	Leu	Asn	Ser	Asn	Glu	Val	Thr	Val	Leu	Phe	Lys	Ser	Gly	Ser	His		
		115					120						125				
Ile	Ser	Gly	Arg	Gly	Phe	Leu	Leu	Thr	Tyr	Ala	Ser	Ser	Asp	His	Pro		
		130				135						140					
Asp	Leu	Ile	Thr	Cys	Leu	Glu	Arg	Gly	Ser	His	Tyr	Phe	Glu	Glu	Lys		
145					150					155					160		
Tyr	Ser	Lys	Phe	Cys	Pro	Ala	Gly	Cys	Arg	Asp	Ile	Ala	Arg	Asp	Ile		
				165					170					175			
Ser	Gly	Asn	Thr	Lys	Asp	Gly	Tyr	Arg	Asp	Thr	Ser	Leu	Leu	Cys	Lys		
		180						185					190				
Ala	Ala	Ile	His	Ala	Gly	Ile	Ile	Thr	Asp	Glu	Leu	Gly	Gly	His	Ile		
		195				200						205					
Asn	Leu	Leu	Gln	Ser	Lys	Gly	Ile	Ser	His	Tyr	Glu	Gly	Leu	Leu	Ala		
	210					215					220						
Asn	Gly	Val	Leu	Ser	Arg	His	Gly	Ser	Leu	Ser	Glu	Lys	Arg	Phe	Leu		
225					230					235					240		
Phe	Thr	Thr	Pro	Gly	Met	Asn	Ile	Thr	Thr	Val	Ala	Ile	Pro	Ser	Val		
				245					250					255			
Ile	Phe	Ile	Ala	Leu	Leu	Leu	Thr	Gly	Met	Gly	Ile	Phe	Ala	Ile	Cys		
			260					265					270				
Arg	Lys	Arg	Lys	Lys	Lys	Gly	Asn	Pro	Tyr	Val	Ser	Ala	Asp	Ala	Gln		
		275					280					285					
Lys	Thr	Gly	Cys	Trp	Lys	Gln	Ile	Lys	Tyr	Pro	Phe	Ala	Arg	His	Gln		
	290					295				300							
Ser	Thr	Glu	Phe	Thr	Ile	Ser	Tyr	Asp	Asn	Glu	Lys	Glu	Met	Thr	Gln		
305					310					315					320		
Lys	Leu	Asp	Leu	Ile	Thr	Ser	Asp	Met	Ala	Asp	Tyr	Gln	Gln	Pro	Leu		
			325						330					335			
Met	Ile	Gly	Thr	Gly	Thr	Val	Ala	Arg	Lys	Gly	Ser	Thr	Phe	Arg	Pro		
		340						345					350				
Met	Asp	Thr	Asp	Thr	Glu	Glu	Val	Arg	Val	Asn	Thr	Glu	Ala	Ser	Gly		
		355				360						365					
His	Tyr	Asp	Cys	Pro	His	Arg	Pro	Gly	Arg	His	Glu	Tyr	Ala	Leu	Pro		
	370					375					380						
Leu	Thr	His	Ser	Glu	Pro	Glu	Tyr	Ala	Thr	Pro	Ile	Val	Glu	Arg	His		
385					390					395					400		
Leu	Leu	Arg	Ala	His	Thr	Phe	Ser	Thr	Gln	Ser	Gly	Tyr	Arg	Val	Pro		
			405						410					415			
Gly	Pro	Arg	Pro	Thr	His	Glu	His	Ser	His	Ser	Ser	Gly	Gly	Phe	Pro		
			420					425					430				
Pro	Ala	Thr	Gly	Ala	Thr	Gln	Val	Glu	Ser	Tyr	Gln	Arg	Pro	Ala	Ser		
	435					440						445					
Pro	Lys	Pro	Val	Gly	Gly	Gly	Tyr	Asp	Lys	Pro	Ala	Ala	Ser	Ser	Phe		
	450				455					460							
Leu	Asp	Ser	Arg	Asp	Pro	Ala	Ser	Gln	Ser	Gln	Met	Thr	Ser	Gly	Gly		
465					470					475					480		
Asp	Asp	Gly	Tyr	Ser	Ala	Pro	Arg	Asn	Gly	Leu	Ala	Pro	Leu	Asn	Gln		
			485					490						495			
Thr	Ala	Met	Thr	Ala	Leu	Leu											
			500														

<210> 52  
 <211> 757  
 <212> PRT  
 <213> Mouse



<400> 52

Met	Met	Trp	Pro	Gln	Pro	Pro	Thr	Phe	Ser	Leu	Phe	Leu	Leu	Leu	Leu
1				5				10					15		
Leu	Ser	Gln	Ala	Pro	Ser	Ser	Arg	Pro	Gln	Ser	Ser	Gly	Thr	Lys	Lys
			20					25					30		
Leu	Arg	Leu	Val	Gly	Pro	Ala	Asp	Arg	Pro	Lys	Glu	Gly	Arg	Leu	Glu
		35					40					45			
Val	Leu	His	Gln	Gly	Gln	Trp	Gly	Thr	Val	Cys	Asp	Asp	Asp	Phe	Ala
	50					55					60				
Leu	Gln	Glu	Ala	Thr	Val	Ala	Cys	Arg	Gln	Leu	Gly	Phe	Glu	Ser	Ala
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Leu	Thr	Trp	Ala	His	Ser	Ala	Lys	Tyr	Gly	Gln	Gly	Glu	Gly	Pro	Ile
				85					90					95	
Trp	Leu	Asp	Asn	Val	Arg	Cys	Leu	Gly	Thr	Glu	Lys	Thr	Leu	Asp	Gln
			100					105					110		
Cys	Gly	Ser	Asn	Gly	Trp	Gly	Ile	Ser	Asp	Cys	Arg	His	Ser	Glu	Asp
		115					120					125			
Val	Gly	Val	Val	Cys	His	Pro	Arg	Arg	Gln	His	Gly	Tyr	His	Ser	Glu
	130					135					140				
Lys	Val	Ser	Asn	Ala	Leu	Gly	Pro	Gln	Gly	Arg	Arg	Leu	Glu	Glu	Val
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Arg	Leu	Lys	Pro	Ile	Leu	Ala	Ser	Ala	Lys	Arg	His	Ser	Pro	Val	Thr
				165					170					175	
Glu	Gly	Ala	Val	Glu	Val	Arg	Tyr	Asp	Gly	His	Trp	Arg	Gln	Val	Cys
			180					185					190		
Asp	Gln	Gly	Trp	Thr	Met	Asn	Asn	Ser	Arg	Val	Val	Cys	Gly	Met	Leu
		195				200						205			
Gly	Phe	Pro	Ser	Gln	Thr	Ser	Val	Asn	Ser	His	Tyr	Tyr	Arg	Lys	Val
	210					215					220				
Trp	Asn	Leu	Lys	Met	Lys	Asp	Pro	Lys	Ser	Arg	Leu	Asn	Ser	Leu	Thr
225					230					235					240
Lys	Lys	Asn	Ser	Phe	Trp	Ile	His	Arg	Val	Asp	Cys	Phe	Gly	Thr	Glu
				245					250					255	
Pro	His	Leu	Ala	Lys	Cys	Gln	Val	Gln	Val	Ala	Pro	Gly	Arg	Gly	Lys
			260					265					270		
Leu	Arg	Ala	Ala	Cys	Pro	Gly	Gly	Met	His	Ala	Val	Val	Ser	Cys	Val
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Ser	His	Ala	Glu	Glu	Leu	Lys	Val	Arg	Leu	Arg	Ser	Gly	Ala	Gln	Val
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Gly	Glu	Gly	Arg	Val	Glu	Val	Leu	Met	Asn	Arg	Gln	Trp	Gly	Thr	Val
				325					330					335	
Cys	Asp	His	Arg	Trp	Asn	Leu	Ile	Ser	Ala	Ser	Val	Val	Cys	Arg	Gln
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Leu	Gly	Phe	Gly	Ser	Ala	Arg	Glu	Ala	Leu	Phe	Gly	Ala	Gln	Leu	Gly
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	370					375					380				
Glu	Arg	Thr	Leu	Gly	Asp	Cys	Leu	Ala	Leu	Glu	Gly	Ser	Gln	Asn	Gly
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Cys	Gln	His	Ala	Asn	Asp	Ala	Ala	Val	Arg	Cys	Asn	Ile	Pro	Asp	Met
			405						410					415	
Gly	Phe	Gln	Asn	Lys	Val	Arg	Leu	Ala	Gly	Gly	Arg	Asn	Ser	Glu	Glu
			420					425					430		
Gly	Val	Val	Glu	Val	Gln	Val	Glu	Val	Asn	Gly	Val	Pro	Arg	Trp	Gly

		435							440							445				
Thr	Val	Cys	Ser	Asp	His	Trp	Gly	Leu	Thr	Glu	Ala	Met	Val	Thr	Cys					
	450					455					460									
Arg	Gln	Leu	Gly	Leu	Gly	Phe	Ala	Asn	Phe	Ala	Leu	Lys	Asp	Thr	Trp					
465					470					475					480					
Tyr	Trp	Gln	Gly	Thr	Pro	Glu	Ala	Lys	Glu	Val	Val	Met	Ser	Gly	Val					
				485					490					495						
Arg	Cys	Ser	Gly	Thr	Glu	Met	Ala	Leu	Gln	Gln	Cys	Gln	Arg	His	Gly					
			500					505					510							
Pro	Val	His	Cys	Ser	His	Gly	Pro	Gly	Arg	Phe	Ser	Ala	Gly	Val	Ala					
		515					520					525								
Cys	Met	Asn	Ser	Ala	Pro	Asp	Leu	Val	Met	Asn	Ala	Gln	Leu	Val	Gln					
	530					535				540										
Glu	Thr	Ala	Tyr	Leu	Glu	Asp	Arg	Pro	Leu	Ser	Met	Leu	Tyr	Cys	Ala					
545					550					555					560					
His	Glu	Glu	Asn	Cys	Leu	Ser	Lys	Ser	Ala	Asp	His	Met	Asp	Trp	Pro					
				565					570					575						
Tyr	Gly	Tyr	Arg	Arg	Leu	Leu	Arg	Phe	Ser	Ser	Gln	Ile	Tyr	Asn	Leu					
			580					585					590							
Gly	Arg	Ala	Asp	Phe	Arg	Pro	Lys	Ala	Gly	Arg	His	Ser	Trp	Ile	Trp					
		595				600						605								
His	Gln	Cys	His	Arg	His	Tyr	His	Ser	Ile	Glu	Val	Phe	Thr	His	Tyr					
	610					615				620										
Asp	Leu	Leu	Thr	Leu	Asn	Gly	Ser	Lys	Val	Ala	Glu	Gly	His	Lys	Ala					
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Ser	Phe	Cys	Leu	Glu	Asp	Thr	Asn	Cys	Pro	Ser	Gly	Val	Gln	Arg	Arg					
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Tyr	Ala	Cys	Ala	Asn	Phe	Gly	Glu	Gln	Gly	Val	Ala	Val	Gly	Cys	Trp					
			660				665						670							
Asp	Thr	Tyr	Arg	His	Asp	Ile	Asp	Cys	Gln	Trp	Val	Asp	Ile	Thr	Asp					
		675					680					685								
Val	Gly	Pro	Gly	Asp	Tyr	Ile	Phe	Gln	Val	Val	Val	Asn	Pro	Thr	Asn					
	690					695				700										
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705					710				715						720					
Lys	Tyr	Asp	Gly	Gln	Arg	Val	Trp	Leu	His	Asn	Cys	His	Thr	Gly	Asp					
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<210> 53
<211> 169
<212> PRT
<213> Mouse
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			20					25					30		
Glu	Asp	Pro	Asn	Met	Lys	Pro	Thr	Pro	Lys	Ala	Pro	Thr	Pro	Lys	Lys
		35					40					45			
Pro	Ser	Gly	Gly	Phe	Asp	Leu	Glu	Asp	Ala	Leu	Pro	Gly	Gly	Gly	Gly
	50					55					60				
Gly	Gly	Ala	Gly	Glu	Lys	Pro	Gly	Asn	Arg	Pro	Gln	Pro	Asp	Pro	Lys

65		70		75		80									
Pro	Pro	Arg	Pro	His	Gly	Asp	Ser	Gly	Gly	Ile	Ser	Asp	Ser	Asp	Leu
				85					90					95	
Ala	Asp	Ala	Ala	Gly	Gln	Gly	Gly	Gly	Ala	Gly	Arg	Arg	Gly	Ser	Gly
			100					105					110		
Asp	Glu	Gly	Gly	His	Gly	Gly	Ala	Gly	Gly	Ala	Glu	Pro	Glu	Gly	Thr
		115					120					125			
Pro	Gln	Gly	Leu	Val	Pro	Gly	Val	Val	Ala	Ala	Val	Val	Ala	Ala	Val
	130					135					140				
Ala	Gly	Ala	Val	Ser	Ser	Phe	Val	Ala	Tyr	Gln	Arg	Arg	Arg	Leu	Cys
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 <213> Artificial Sequence

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<210> 55  
 <211> 35  
 <212> DNA  
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<210> 56  
 <211> 37  
 <212> DNA  
 <213> Artificial Sequence

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 <223> Made in a lab

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<210> 57  
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 <212> DNA  
 <213> Artificial Sequence

<220>  
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<210> 58  
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 <212> DNA  
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<400> 58

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<210> 59  
 <211> 311  
 <212> PRT  
 <213> Mouse

<400> 59

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Thr Glu Arg Leu Gly Ser Gly Thr Tyr Ala Thr Val Tyr Lys Ala Tyr
      20           25           30
Ala Lys Lys Asp Thr Arg Glu Val Val Ala Ile Lys Cys Val Ala Lys
      35           40           45
Lys Ser Leu Asn Lys Ala Ser Val Glu Asn Leu Leu Thr Glu Ile Glu
      50           55           60
Ile Leu Lys Gly Ile Arg His Pro His Ile Val Gln Leu Lys Asp Phe
      65           70           75           80
Gln Trp Asp Asn Asp Asn Ile Tyr Leu Ile Met Glu Phe Cys Ala Gly
      85           90           95
Gly Asp Leu Ser Arg Phe Ile His Thr Arg Arg Ile Leu Pro Glu Lys
      100          105          110
Val Ala Arg Val Phe Met Gln Gln Leu Ala Ser Ala Leu Gln Phe Leu
      115          120          125
His Glu Arg Asn Ile Ser His Leu Asp Leu Lys Pro Gln Asn Ile Leu
      130          135          140
Leu Ser Ser Leu Glu Lys Pro His Leu Lys Leu Ala Asp Phe Gly Phe
      145          150          155          160
Ala Gln His Met Ser Pro Trp Asp Glu Lys His Val Leu Arg Gly Ser
      165          170          175
Pro Leu Tyr Met Ala Pro Glu Met Val Cys Arg Arg Gln Tyr Asp Ala
      180          185          190
Arg Val Asp Leu Trp Ser Val Gly Val Ile Leu Tyr Glu Ala Leu Phe
      195          200          205
Gly Gln Pro Pro Phe Ala Ser Arg Ser Phe Ser Glu Leu Glu Glu Lys
      210          215          220
Ile Arg Ser Asn Arg Val Ile Glu Val Arg Leu Ala Gly Ser Arg His
      225          230          235          240
Pro Pro Gly Ile Glu Gly Leu Lys Ala Gln Lys Phe Val Gln His Cys
      245          250          255
Ser Ala Gly Ser Gly Pro Phe Met Ala Val Gly His Val Leu Trp Trp
      260          265          270
Lys Pro Arg Val Trp Ser Val Pro Glu Asp Pro Tyr Gln Pro Arg Gln
      275          280          285
Ala Thr Asn Asp Gln Ala Gln Ser Ser His Ser Pro Gly Leu Glu Ala
      290          295          300
Asn Thr His Leu Ile Gly Asp
305          310

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<210> 60  
 <211> 373  
 <212> PRT  
 <213> Mouse

<400> 60

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		20					25					30		Val
Pro	Arg	Gln	Val	Ala	Arg	Leu	Gly	Arg	Thr	Val	Arg	Leu	Gln	Cys
	35					40						45		Pro
Val	Glu	Gly	Asp	Pro	Pro	Pro	Leu	Thr	Met	Trp	Thr	Lys	Asp	Gly
	50					55					60			Arg
Thr	Ile	His	Ser	Gly	Trp	Ser	Arg	Phe	Arg	Val	Leu	Pro	Gln	Gly
	65			70						75				80
Lys	Val	Lys	Glu	Val	Glu	Ala	Glu	Asp	Ala	Gly	Val	Tyr	Val	Cys
			85					90					95	Lys
Ala	Thr	Asn	Gly	Phe	Gly	Ser	Leu	Ser	Val	Asn	Tyr	Thr	Leu	Ile
		100					105					110		Ile
Met	Asp	Asp	Ile	Ser	Pro	Gly	Lys	Glu	Ser	Pro	Gly	Pro	Gly	Gly
	115					120					125			Ser
Ser	Gly	Gly	Gln	Glu	Asp	Pro	Ala	Ser	Gln	Gln	Trp	Ala	Arg	Pro
	130					135					140			Arg
Phe	Thr	Gln	Pro	Ser	Lys	Met	Arg	Arg	Arg	Val	Ile	Ala	Arg	Pro
	145				150					155				160
Gly	Ser	Ser	Val	Arg	Leu	Lys	Cys	Val	Ala	Ser	Gly	His	Pro	Arg
			165					170					175	Pro
Asp	Ile	Met	Trp	Met	Lys	Asp	Asp	Gln	Thr	Leu	Thr	His	Leu	Glu
	180						185						190	Ala
Ser	Glu	His	Arg	Lys	Lys	Lys	Trp	Thr	Leu	Ser	Leu	Lys	Asn	Leu
	195					200					205			Lys
Pro	Glu	Asp	Ser	Gly	Lys	Tyr	Thr	Cys	Arg	Val	Ser	Asn	Lys	Ala
	210				215						220			Gly
Ala	Ile	Asn	Ala	Thr	Tyr	Lys	Val	Asp	Val	Ile	Gln	Arg	Thr	Arg
	225				230					235				240
Lys	Pro	Val	Leu	Thr	Gly	Thr	His	Pro	Val	Asn	Thr	Thr	Val	Asp
			245					250					255	Phe
Gly	Gly	Thr	Thr	Ser	Phe	Gln	Cys	Lys	Val	Arg	Ser	Asp	Val	Lys
		260					265						270	Pro
Val	Ile	Gln	Trp	Leu	Lys	Arg	Val	Glu	Tyr	Gly	Ser	Glu	Gly	Arg
	275					280					285			His
Asn	Ser	Thr	Ile	Asp	Val	Gly	Gly	Gln	Lys	Phe	Val	Val	Leu	Pro
	290				295					300				Thr
Gly	Asp	Val	Trp	Ser	Arg	Pro	Asp	Gly	Ser	Tyr	Leu	Asn	Lys	Leu
	305				310				315					320
Ile	Ser	Arg	Ala	Arg	Gln	Asp	Asp	Ala	Gly	Met	Tyr	Ile	Cys	Leu
			325					330					335	Gly
Ala	Asn	Thr	Met	Gly	Tyr	Ser	Phe	Arg	Ser	Ala	Phe	Leu	Thr	Val
		340					345					350		Leu
Pro	Asp	Pro	Lys	Pro	Pro	Gly	Pro	Pro	Met	Ala	Ser	Ser	Ser	Ser
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Thr	Ser	Leu	Pro	Trp										
	370													

<210> 61  
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[illegible]

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Asp	Leu	Pro	Ser	Leu	Ala	Val	Gly	Ile	Cys	Glu	Glu	His	Gly	Ser	Ala
Met	Ala	Pro	Gln	His	Ile	Leu	Ala	Ser	Gly	Ser	Thr	Ala	Gly	Pro	Lys
Leu	Tyr	Pro	Lys	Leu	Tyr	Thr	Asp	Val	His	Thr	His	Thr	His	Thr	His
Thr	Cys	Thr	His	Thr	Leu	Ser	Cys	Gly	Gly	Gln	Gly	Ser	Ser	Thr	Pro
Ala	Cys	Pro	Leu	Ser	Val	Leu	Asn	Thr	Ala	Asn	Leu	Gln	Ala	Leu	Cys
Pro	Glu	Val	Gly	Ile	Trp	Gly	Pro	Arg	Gln	Gln	Val	Gly	Arg	Ile	Glu
Asn	Asn	Gly	Gly	Arg	Val	Ser									